

## Catastrophic radioactive release

### Human Health Risk

Ecological Risk M

Socioeconomic Risk M - L

A catastrophic accident at a commercial nuclear powered generating station would release large quantities of radioactive substances to the environment. The release of radioactive gases, aerosols, and particles, extending over a prolonged period of time, would result in impacts to all living species. A catastrophic release in Chernobyl killed nearby trees and resulted in acute and chronic effects among a wide range of species.

### What's at risk?

There are four nuclear power plants in New Jersey and another six in nearby counties of neighboring states. Virtually the entire population is within a 50-mile radius of at least one of these facilities. All species in all ecosystems are susceptible to damage from radioactive release. Plants show a wide range of sensitivities to the effects of radiation and animals generally fall within this range. Mammals are most sensitive, followed by birds, fish, reptiles, and insects. Embryos and juveniles are more sensitive to radiation than adults.

### What are the ecological impacts in New Jersey?

A catastrophic release in New Jersey could cause the death of many species, a long term risk for reproduction and development, and the possible extirpation of species already under population pressures due to reduced habitat. The probability of such an event, however, is low.

### What are the socioeconomic impacts in New Jersey?

The costs of remediation from a significant accident at a nuclear power facility could be greater than one billion dollars. The psychological effects associated with the low probability of a catastrophic event is small but significant. There may also be property value reductions resulting from the possibility of an accidental release.

### What's being done?

The Nuclear Regulatory Commission, the U.S. Environmental Protection Agency, U.S. Department of Energy, and U.S. Department of Transportation are responsible for establishing radiation protection regulations. These agencies work with international organizations to assure that regulations are based on internationally recognized scientific studies.